

## Inspection and Test Plan: Civil Inspections

TBD Wind Energy Project

C-10 Misc. Sub Grade &amp; Gravel Placement Inspection

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Yard Name or Identifier &amp; Sheet Number: \_\_\_\_\_

Acreage of Yard: \_\_\_\_\_

### Passes Inspection

1. One call made for utility locations.	Yes	No
Ticket Number (If company/self performed): _____		
2. The yard is graded to promote positive drainage away from the yard to storm water outlets.	Yes	No
3. No visible humps or holes that would collect run off prior to gravel placement.	Yes	No
4. Final grading completed per permit and drawing specifications.	Yes	No
5. Subgrade passes Proof Roll Test.	Yes	No
6. Culvert sections installed per specification. C-2 Drainage Structure Inspection filled out.	Yes	N/A No
7. Spoil material and large rocks removed from disturbed areas.	Yes	No
8. Gravel depth checked and confirmed with subcontractor.	Yes	N/A No
9. Gravel placement length & width: Length: _____ x Width _____.	Yes	N/A No
10. Top soil piles located per drawings and specifications.	Yes	N/A No
11. Proper BMPs installed per SWPPP plan.	Yes	N/A No
12. Meets county set back and permitting requirements.	Yes	No
13. Seeding and stabilization BMP installation completed per drawings and specifications.	Yes	N/A No
14. C-5 Seeding Inspection form has been filled out and completed.	Yes	No
15. Were there any Non-Conformance Reports filed?	Yes	No
If yes, list NCR #____. Has it been resolved?	Yes	N/A No

\*Note any deviations in the comments section.\*

Comments:

Civil Foreman: \_\_\_\_\_ Date: \_\_\_\_\_

QA/QC: \_\_\_\_\_ Date: \_\_\_\_\_

## Quality Control Procedure

The Quality Control Procedure provides an example of the documented procedure accompanying the "Construction Period Road Inspection" subsection of the "Civil Construction Block". A similarly detailed procedure exists for each inspection in the full inspection and test plan.

### C-1 Road Inspection

#### 1.0. Purpose

To ensure that the road installation is completed per design drawings and specifications.

#### 2.0. Revision History

#### 3.0. Required Tools & Equipment

- Personal Protective Equipment (PPE)
- 25' and 100' tape measure
- Laser level
- Digital level
- Pick axe
- Two steel pins
- String line
- Hammer
- Measuring wheel
- Wood lathes
- Paint pen
- Digital camera
- Civil drawings and specifications

#### 4.0. Procedure

- 4.1.** Start by going through the inspection form line by line to know what you will need to look for once in the field. Also, fill in your job name, number, and the design specifications prior to printing the inspection form so you don't have to fill it out each time. Any changes to the C-1 Inspection form shall be approved.
- 4.2.** Before going out on site to inspect roads, bring your road drawings and specifications. Also bring the required tools and equipment.
- 4.3.** The first line on the inspection form will ask you for the road name or identifier. Each road section should have some sort of identification to determine the location of the inspection.

- 4.4.** The next item will ask you if the topsoil has been removed. It may seem obvious if you're working with grass land; however, if you are working in a plowed field it may be hard to notice if they really removed the top soil or not. If the top soil has been removed and is accepted, you can circle "Yes" and move to the next line. You will need to review the specifications for the required depth of the sub-grade.



*Figure 4.1: Removing Top Soil*

- 4.5.** The next line item will ask if the SWPPP Plan has been implemented and completed per specifications. Circle "Yes" if it is in place and move on with your inspection.
- 4.6.** Before placing any base material, there are a few things that need to happen before cutting the contractor loose. First, the material that is planned on being used must be submitted to the civil engineers for their approval (ensure it has been accepted). Second, the subgrade must be complete and passing. This may require a proof roll of the sub-grade or even a density test, each requiring a third party inspector to complete the test. Once either has been completed and is accepted, you can circle "Yes". It is a good practice to note when the sub-grade actually passed on your sheet as well.

## C-1 Road Inspection (continued)

- 4.7. Next on your inspection form you will find it asks you if geotextile fabric has been installed. Typically geotextile fabric is required; however, some soil types do not require it. You will need to check your specifications to determine whether this is needed or not. If it is required, ensure it has been installed properly and circle "Yes".



Figure 4.2: Installing Geotextile Fabric

- 4.8. The next line item will ask if the compaction reports have passed specification requirements. For the road base material to pass inspection, you will need to get the compaction reports from your third party tester on-site, and the results must meet or exceed the specifications. A good practice is to track where the road base has passed compaction requirements on a map so you're not missing any reports when it comes to submitting them to the owners.

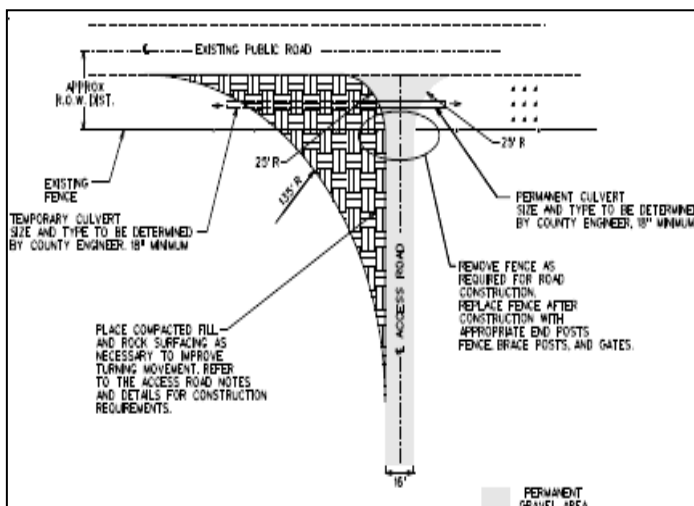


Figure 4.3: Typical Access Road Entrance Detail



Figure 4.4: Compacting Road Base



Figure 4.5: Performing QC Check on Gravel Installation

- 4.9. The next line item will ask if the road radius for access points and curves has been installed per specifications. Usually the road radius is determined by the turbine manufacturer and transportation company. If inspection passes, circle "Yes" and move onto the next question.
- 4.10. The next step is to check your road width. Do so by placing two metal pins on each side of the road and measuring the distance between the two points. If there is a PE available to assist with the inspection, they can hold the other end of the tape instead of using the pins. This should be completed before the road shoulders have been pulled up. Once the shoulders have been pulled up, it will be hard to determine where the exact edge of the road is.